THE ORIGIN OF ENGRAVING.

The Invention of Producing Pictures on Paper from Metal Plates.

There are few chapters in the history of art of greater interest than those which unfold to us the discovery of forgotten treasures, and reveal the existence of works which had long ago passed out of remembrance. The intimate connection between the invention of engraving and the art of the silversmith, or rather that branch of the silversmith's work which consists of the chasing of an outline into a plate of precious metal to be subsequently filled up with dark-colored enamel, the so-called Niello work, was never appreciated until, at the close of the last century, Abbe Zani found among some old Italian engravings, in the National library at Paris, a print which he recognized as similar in subject to the famous Pax, decorated with Niello work, made by Maso Fingiguerra for the baptistery of St. John, and paid for, as is proved by the records in 1452.

This Pax or Assumption was subsequently transferred to the cabinet of bronzes in the gallery of Florence, where it is now preserved, and it was proved, on comparing with it the engraving, that the latter had actually been printed from the silver plate, before the enamel was fused into the outline, prior, therefore, to 1452. On the strength of this discovery, Finiguerra has, ever since the year 1796, been credited with the invention of producing engravings on paper from metal plates. There seems little reason to doubt, as has been often pointed out, that many silversmiths of the fifteenth century may have been in the habit of obtaining trials of their work in progress, as did Finiguerra, perchance, when he produced his historical print, representing Christ crowning the Virgin, from his work on the Florentine Pax.

It may indeed have been, together with the well-known sulphur casts, a recognized mode of obtaining a record of the Niello work, which had been practiced for many years previous to the time in question, though no such paper impressions of an earlier date than this have been handed down to us. It was a common practice to take proofs of the work by means of sulphur casts long previous to 1452, as numerous specimens of such casts have been preserved to us, but it is difficult to say who was the first bold innovator who substituted a piece of paper for the sulphur, and thus originated the precious art of engraving. The story of the wet linen, which accidentally gave the idea to Finiguerra, is generally treated as fiction of those who have studied the subject.—Art Journal.

American Manners and Speech.

The Americans are without doubt more unconventional than the English. They are more natural in their manners and more natural in their speech. When they have anything to say they deliberate less on the way in which it should be put. They have no special reverence for hackneyed forms of speech, phrases that are conventional or words which are venerated merely because they are old. They realize the poetical value of the fossils of language that were the speech of the English people in the time of Chaucer, Spenser, or Shakespeare, but do not feel themselves obliged to retain and make daily use of them unless common usage has made it necessary.

If new words come into local use and afterwards become established by adoption of the newspapers and by popular literature, they do not object to their being incorporated into the language, if they are decent and expressive. In this way America, while it is responsible, though no more guilty than England, for a great deal of slang, has helped to enrich the mother tongue in ways that English writers even have been compelled to acknowledge.—San Francisco Chronicle.

Pet Witches of the Caroline Islands.

The natives of the Caroline islands are firm believers in sorcery, but instead of burning their witches they try to conciliate them in every possible way, especially by leaving presents at their door in night-time, never doubting that the wisdom of the bruxa will enable her to divine the unknown benefactor. Witches are propitiated by gifts of cocoa cakes and honey whenever the storm-clouds loom on the horizon of the setting sun, as well as in times of protracted droughts, for bruxas are supposed to have specifics for evils of that sort. Women credited with proficiency in such business branches of the black art are therefore considered desirable matches, and do not fail to impress their admirers with vague hints of magical omnipotence. —Dr. Felix L. Oswald.

Going To Be a Choir Singer.

A very bright little lad of 13 years, son of a popular vocalist, joined his mother's church recently and felt very proud of it. While he was strutting around the house, bearing his new honors with dignity, a much younger brother exclaimed: "You feel mighty big, don't you. I'll never join the church anyway!" On being asked why, he replied: "Because I won't. I'm going to be a choir singer like father, and singers never join the church, you know!"—Utica Observer.

Place Where Grass Grows Best.

The grass which grows on dry, rich soil, with free sunlight warming it, is much more nutritious than that grown on land filled with stagnant water. Stock will eat the former down to the roots before touching the latter. It is very common in fields where underdrains run, to see the line over the tile made plainly visible by its closely-cropped herbage.—Chicago Journal.

Lignite Readily Pressed in Bricks.

Lignite may be readily pressed in bricks for burning by the addition of a little tar, or fluid pitch, or asphalt.

A social axiom for both capital and labor to recollect: Let it be granted that society can never be regulated by hate.—New York Commercial.

The price asked by Professor Nicolle for the lately discovered picture by Raphael is $100,000.

Lincoln's Contempt for Conventionalities.

Mr. Lamon describes Mr. Lincoln as pre-eminent in moral courage, eloquent in speech and possessed of great common sense. With him there was method in every move. He never trifled. He was charged with overmuch seriousness and melancholy, which was often misconstrued for discouragement. He never told an anecdote that did not point to a moral. This character often subjected him to adverse criticism among the ultra fashionables, especially when this class was made the object of his satire. It was said of him that he lacked veneration amounting almost to moral obliquity. He stooped to no vindication in life, leaving that for history. Mr. Lincoln was epigrammatic in elucidating his ideas, indulged in no studied phrases, was no fumbler of works.

It will be acknowledged that Mr. Lincoln lacked dignity in outward appearance. He fully realized that he was formed by nature all right, but was not moulded by art, In speaking of his lack of polish he said: "I guess I will leave the fancy work to others and will browse around the utility department as best I can." Mr. Lincoln, however, showed that he was master of a forcible nondescript sort of dignity never before recognized by orthodox diplomats. No American at any period in our history could write a paper of public import with more impressive seriousness, circumspection and grave dignity. He was ever genial, tender and social, never bewailing his hardships or exulting in his triumphs. His great ambition was to leave the world better than he found it.—New York World.

The Capacity for Steady Thinking.

I have asked—and it is a good test—can you, on a long railway journey, think out a problem on a great social subject? Will you begin to think out that problem when you have before you two hours in a railway carriage? This is simply a form of mental indolence; they can not concentrate themselves and bring their thoughts sufficiently together to do spontaneous work. It partly comes from this, again, that they will not give themselves time; from that they get out of the habit of steady thought, and they will not dwell long upon one subject. Both in reading and in thinking you never get far unless you will have a long consecutive tete-a-tete with your book or with your problem.

People read and think in the same way that they visit their acquaintances and friends. They have an exciting conversation for a few minutes, and then the visit is over. If you wish to see a landscape or explore a character you must take time, and it must be done by steady, consistent and continuous thought. I bespeak, therefore, for reading and for thinking greater deliberation, more careful choice of material, more consecutiveness and continuity and above all, that it should never become necessary to hurry through anything, whether it be lecture, or book, or problem.—Mr. Goschen's Lecture.

Chicago's Board of Trade Clock.

The works of the immense clock which has been put up in the board of trade building in Chicago are pronounced a most perfect reproduction of those of the great Westminister palace clock in London, but with some additions and improvements adapted to its commercial purpose. It is constructed of iron, bronze, and steel, and weighs ten tons without the bell, the latter adding some 4,500 pounds more. The pendulum alone weighs 750 pounds.

In its arrangement the works are divided into a time train, a hand train, and a striking train, these several trains comprising separate machines, resting side by side, on separate frames. Each of the trains is operated by a separate weight, and the three weights together reach some 3,500 pounds. The hammer that strikes the bell weighs eighty pounds, the clock work is below the dials, which are ten feet ten inches in diameter, and the bell is above them, or 250 feet above the ground. The pendulum swings one way in two seconds.—New York Sun.

Degrees of Skill in Labor.

There is a very common but mistaken impression abroad that there are no degrees of skill in what is called ordinary labor. A single illustration will show the magnitude of this error. Take the simple operation of handling a rock-drill, for instance. One man will drill holes true and parallel, while another, though he may be quite as industrious and well meaning, will do precisely the opposite. The result is that the former uses less powder for the blast, and the rock comes out in shapely masses fit to be made into dimension stone worth a good price, while the product of the latter is only serviceable for rubble work and not worth as much by many times its cost. Yet both the men rank as laborers.—W. H. Swift in Globe-Democrat.

Great Rainfall in New England.

The great rainfall in New England in February is declared by meteorologists who have studied it to have been unprecedented since records began to be kept. The total amount of water which fell from the clouds, chiefly during twenty-four hours, is computed to have amounted to 750,000,000,000 gallons. The fall was greatest between New London and Providence.—New York Sun.

The Mexicans' Passion for Mirrors.

Mexican have a passion for mirrors, and a traveler says that the interior of some of the houses look like steamboat cabins. He remarks also that mirrors are among the commonest articles in the pawnshops there.—Exchange.

Hair Grease for Ancient Romans.

The ladies and young men of fashion of ancient Rome used a ball of German pomade to tinge the hair of a light or fair color. It was composed of goat's tallow and beechwood ashes, and made up into a ball.—Exchange.

The Early Life of Gold-Fish.

Dr. Bessels, who is in charge of the government carp ponds, says that only about 200 out of every 1,000 gold-fish spawned pass through the early stages of gold-fish life.—Inter Ocean.

IN A LUCIFER-MATCH FACTORY.

The Dreadfully Disfiguring Disease Which Attacks the Employes.

It certainly is unfortunate that an invention which has been so valuable to the household and, indeed, in all cases where a ready light is desirable, should bring into the world with it so much disease. The makers of lucifer matches, large numbers of whom reside in Vienna, were some years ago attacked with a most singular disease—the rotting away of the jaw-bone. Together with this ugly and most disfiguring complaint there were always constitutional symptoms present which denoted the presence of poison in the blood. After a careful inquiry the cause of of these singular attacks was traced to the phosphorus employed in making the matches. How it could attack the bone was at first a puzzle to the physicians, but it was at length discovered that the poisonous fumes gained admission to the bone by means of decayed teeth.

Some of the German governments endeavored to meet the difficulty by examining the mouths of all persons employed in lucifer match factories, and dismissing from employment any artisan who had unsound teeth. This, to a certain extent, met the case; but inasmuch as it is impossible to give every workman a clean bill of health with respect to his morals the remedy, or rather the preventive, was not thorough. Some twenty years ago the disease also appeared in New Haven, and a medical expert was instructed to investigate the matter. After making a careful inquiry he discovered, out of fifty-nine patients, fifteen died, and the others were greatly disfigured by the destruction of the upper or lower jaw; in some cases both. It is impossible to picture a more disfiguring disease, or one which leads to greater discomfort, inasmuch as in many cases the speech is destroyed and also the process of mastication.

The only effectual method of obliterating the disease is to get rid of the phosphorus, or of so altering its character as to deprive its fumes of their deadly virulence. The common spirting match is the greatest offender in this particular inasmuch as it contains the most phosphorus. Those matches made of amorphous phosphorus, or phosphorus baked for a certain period of time, are believed to be harmless. Many attempts have been made to produce matches from this substance in connection with chlorate of potash, and at last with success. The combination, however, only takes place in the act of striking the light, the utmost danger existing in any attempt to combine them permanently together, The safety match is made principally of chlorate of potash, mixed with black oxide of manganese, red lead, sulphuret of antimony and glue, while the amorphous phosphorus is placed upon the box instead of the ordinary sand-paper, and the contact of the two materials produces the light.

It is unfortunate that a light can only be produced with the box, as workingmen do not care to be troubled by carrying one about. Until this difficulty is got over, this excellent invention, calculated to get rid of a most distressing disease, will only be used in the household, the ordinary match that will strike against any rough surface possessing advantages over it which the rough and thoughtless will demand. It is quite clear, however, that for all domestic purposes, the old match ought to be given up.—Brooklyn Eagle.

Several Remedies for Stuttering.

Stuttering is one of the most distressing of vocal defects, and it is a little singular that many parents think it a misfortune that is not susceptible of correction. It is not necessary to confine the stutterer in a cave for years and compel him to place pebbles in his mouth after the manner of Demosthenes. Syllabic accentuation, preserving the continuity of sound while beating time, is a simpler method, and has proved successful in the case of Dr. Hammond and others. Another method is to take long breath, and then to close the teeth and speak between the closed teeth, allowing the air to pass out slowly. It is said that two weeks' practice of this experiment will effect an improvement. It will not be necessary afterward to keep the teeth closed all the time when speaking, but a long inspiration should always be taken, the air being expelled slowly.—Courier-Journal.

Musical Publishers and Amateurs.

Music publishers, equally with book publishers, have large dealings with amateurs, that is to say, with people who have written songs as a diversion, and are determined to have them published at all hazards. And music publishers tell some very funny stories about such experiences. One funny story they do not tell either with frequency or gusto. In several cases amateurs who have published songs on their own account have stumbled upon successes, and, of course, have pocketed all the profits. This contingency is now provided against by publishers requiring that the amateur songwriter shall buy a sufficient number of his songs at the retail price to cover the cost of publication. Thereafter the publisher pays the amateur a royalty on every copy sold, just as though he were a professional.—New York Mail and Express.

Experiment on a Frog's Muscles.

If we place a drop of acid on the skin of the lumbar region of a decapitated frog, we immediately see the foot on the corresponding side lifted to scratch it and rub the spot irritated by the acid. Is we repeat the experiment after having amputated the foot, the application of the acid puts the frog into an evident state of agitation. It makes fruitless efforts with the stump, hesitates, stops, seems to reflect and ends by employing the other foot to wipe off the acid.—Journal of Mental Science.

What a Naturalist Has Noticed.

Scorpions, spiders and various insects have been observed to lie motionless if a persons blows upon them in a vertical direction.

Charms of Early German Poetry.

The old Aryas has medicinal charms for ruling the power of nature, love songs, songs celebrating heroes, choral hymns and ceremonial music and dancing. The oldest German lines of poetry are alliterative. All solemn legal proceedings were accompanied by poetry. Oaths were sworn and sentence of banishment pronounced in alliterative verse. The early alliteration remains to this day in such expressions as house and home, spick and span, weal and woe, stock and stone, kith and kin, bed and board, wind and weather.

Heroic songs, were chanted by wandering minstrels in the days of Attila and Charlemagne, but they are lost. The epic singers of that age appeared before an audience and declaimed in musical recitative. Germany has but one literary fragment of that day—the song of Hildebrand. "Small as is the fragment left to us, it is a noble fruit, and from it we may infer the grandeur of the tree which bore it." The German poets learned to rhyme from the Roman nations. The first traces of rhyme in Germany appear in the ninth century. Beginning about the year 600 two languages, the High German and the Low German, began to be formed. The author says that among all the Teutonic languages, whether of olden or more modern times, none can compare for melody with the Old High German, as seen in the rhyming poets of the ninth century. It is rich in vowels, melodious and plastic as Italian. The mother tongue of Charlemagne was High German, and from that monarch date the first connected records in the German language.—History of German Literature.

The Color of the Human Eye.

Some curious researches have recently been undertaken by Swiss and Swedish physicians on the color of the eyes, but without any apparent purpose. For convenience all eyes were divided in blue or brown, the various shades of gray eyes being classified according to the prominence of blue or brown in their color. Some of the conclusions from a great many observations are these: That women with brown eyes have better prospects of marriage than those with blue; that the average of number of children is greater with parents whose eyes are dissimilar. In children both of whose parents have blue eyes, 93 per cent. inherit blue eyes; but in children both of whose parents have brown eyes, only 80 per cent. have brown eyes. The above results were reached in Switzerland. In Sweden the discoveries were not quite the same. The women with brown eyes were more numerous there than the men with brown eyes, but brown eyes are apparently increasing there as in Switzerland.—Philadelphia Ledger.

The Discovery of Blue Paper.

Congressman Whiting, of Holyoke, make a little speech recently at a dinner in New York, and in the course of his remarks upon the influence of paper he stated this incident: "The introduction of blue paper is another interesting item. The owner of a small mill in England went to London to sell his product, leaving his wife at home. It was washing-day—presumably Monday—and the good wife had a bluing-bag tied to her apron, She visited the mill and, leaning over the engine, dropped her bluing-bag, and instead of white paper she had a lot of blue paper. She met her husband upon his return with a good deal of apprehension, and informed him of the misfortune. He felt as if a serious mistake had been made until he sent the product to market and received 5 cents per pound more than for his usual article, and thereafter his mill was run on blue paper, and it brought him a fortune."—Chicago Times.

The Decoration of Hospital Walls.

Hospitals must necessarily lack many of the attractions of homes, but they can be made more pleasant than they are. Vast, ghostly expanses of white and naked walls, glaring in sunlight, and glowering in twilight, are of themselves incentives to death, when the spirit is more than half weary of life. Bright papers, or papers of any kind, are tabooed from hospital walls by the dicta of hygiene. But a neutral gray might wisely supersede the hideous white, and pictures are very cheap nowadays. A few chromos, with trees and rivers, and laughing children, and pleasant home interiors for subjects, might be found more serviceable than medicine to the patient whose mind is hesitating unconsciously between the apathies and the vitalities.—Indianapolis Times.

The New Yorker's Living Coffin.

The average New Yorker of a successful life goes down-town as soon as he can get his breakfast and wrestles all day with a half-dollar. He is like Jacob and the angel in this performance. Toward night he generally manages to trip the half-dollar and throw it, and swear that he will not let it go until it gives him the blessing of that day. Then he takes his coupe, or one which he hires every day, or takes the elevated railroad, and goes up to his lonely den in one of these gloomy brown-stone streets. There he has got some $40,000 to $90,000 locked up in a piece of ground about twenty feet front by ninety-five feet deep. It is his living coffin, and he sits up in it that evening playing at one or another kind of intelligent jack-straws.—"Gath's" Letter.

No Swim Bladder in Soles.

When once the young sole has taken permanently to lying on his left side he is no longer able to swim vertically; he can only wriggle along sideways on the bottom, with a peculiarly slow, sinuous, and undulating motion. In fact, it would be a positive disadvantage to him to show himself in the upper waters, and for this very purpose nature, with her usual foresight, has deprived him altogether of a swim bladder, by whose aid most other fishes constantly regulate their specific gravity, so as to rise or sink at will in the surrounding medium. —Cornhill Magazine.

It has just been discovered that the green sands which are very plentiful in Georgia have valuable fertilizing qualities.